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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

## Application No.

09/988,467

## Applicant(s)

SCHURIG ET AL.

## Examiner

JASON E. MATTIS

## Art Unit

2616

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 20 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-12, 14 and 17-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12, 14 and 17-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/CC)  
Paper No(s)/Mail Date 1 paper
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. This Office Action is in response to the Request for Continued Examination filed 3/20/08. Claims 1-12, 14, and 17-39 are currently pending in the application.

#### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claim 32 is rejected under 35 U.S.C. 102(e) as being anticipated by Binder (U.S. Pat. 7200152 B2).

With respect to claim 32, Binder discloses a system comprising a first means for carrying data and power (**See column 7 line 35 to column 8 line 6 and Figures 7-8 of Binder for reference to a wire, which is a first means, transmitting both data and power**). Binder also discloses a second means sending and receiving data through the first means and sending power to a node of the network through the first means (**See column 7 line 35 to column 8 line 6 and Figures 7-8 of Binder for reference to**

**node 70, which is a second means, sending and receiving data through the wire as well as sending power to other network nodes through the wire).**

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Binder in view of Rossetti et al. (U.S. Pat. 6420963 B1).

**With respect to claim 1**, Binder discloses a system (See column 7 line 35 to column 8 line 6 and claim 40 of Binder for reference to a communication system). Binder also discloses a cable carrying data in a first section and power in a second section parallel to the first section (See column 7 line 20 to column 8 line 6 and Figures 7-8 of Binder for reference to a wire transmitting both data and power in parallel). Binder further discloses first end connectors for the cable terminating a first end of both the first and second sections with a first network node maintaining adequate physical and electrical contact with the first end connectors to receive data and power via the connectors (See column 7 lines 20-47, claim 13, and Figure 7 of Binder for reference to first connections from the wire line to a network node with the

**connection terminating both the power and data signals at the network node).**

Binder does not specifically disclose that the network is an environmentally hardened network and the connectors are configured to maintain adequate physical and electrical contact over a range of operationally harsh environmental conditions.

**With respect to claim 1**, Rossetti et al., in the field of communications, discloses an environmentally hardened network with connectors configured to maintain adequate physical and electrical contact over a range of operationally harsh environmental conditions (See column 4 lines 24-66, column 5 line 65 to column 6 line 9, and **Figures 4 and 6 of Rossetti et al. for reference to an environmentally hardened network with connectors that provide protection against environmentally harsh conditions including EMI shielding and weather protection**). Using an environmentally hardened network with connectors configured to maintain adequate physical and electrical contact over a range of operationally harsh environmental conditions has the advantage of allowing network components to operate unhindered in an outdoor environment.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Rossetti et al., to combine using an environmentally hardened network with connectors configured to maintain adequate physical and electrical contact over a range of operationally harsh environmental conditions, as suggested by Rossetti et al., with the system and method of Binder, with the motivation being to allow network components to operate unhindered in an outdoor environment.

**With respect to claim 2**, Binder discloses using wire of sufficient gauge to support current sufficient to supply a plurality of nodes of the network including the first node **(See column 7 line 35 to column 8 line 6 and Figures 7-8 of Binder for reference to one central device 70d being used to supply power to other nodes though the wire, as shown in Figure 8, meaning the wire inherently must be of sufficient gauge to support current sufficient to supply the plurality of other nodes).**

6. Claims 3, 12, 23-27, 30, 31, 33-35, 37, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Binder in view of Rossetti et al. and in further view of Hosaka et al. (U.S. Pat. 6448500 B1).

**With respect to claim 23**, Binder discloses a network comprising a first node including a data connector and a power connector **(See column 7 line 35 to column 8 line 6 and Figures 7-8 of Binder for reference to a network including a node 70 including both a data and power connector)**. Binder also discloses a cable including a first portion configured to carry data and a second portion configured to carry power **(See column 7 line 35 to column 8 line 6 and Figures 7-8 of Binder for reference to a wire transmitting both data and power in parallel)**. Binder further discloses a first connector that terminates the first portion and a second connector that terminates the second portion with the first and second connectors being coupled to the data connector and power connector respectively **(See column 7 lines 20-47, claim 13, and Figure 7 of Binder for reference to connections from both the data and power parts of the**

**wire line to the network node with the connectors terminating both the power and data signals at the connectors of the network node).** Binder does not specifically disclose the cable comprising a weather resistant outer sheath surrounding the first and second portions. Binder also does not disclose using at least four unshielded twisted pairs of wires for the data and at least two insulated wires for the power.

**With respect to claim 30,** Binder does not disclose using plugs and receptacles that interlock with a secure mechanical clasping.

**With respect to claim 31,** Binder does not disclose the connectors having protective housings that shield contact surfaces from dirt moisture and EMI.

**With respect to claim 33,** Binder discloses a method comprising coupling a first connector of a cable to a data connector of a network node and coupling a second connector of the cable to a power connector of the network node **(See column 7 lines 35-47 and Figure 7 of Binder for reference to connectors of a wire line with the connectors terminating at connectors of the network node).** Binder also discloses the cable including a first portion to carry data and a second portion to carry power **(See column 7 line 35 to column 8 line 6 and Figures 7-8 of Binder for reference to the wire having first and second portions to transmit data and power in parallel).** Binder does not specifically disclose the cable comprising a weather resistant outer sheath surrounding the first and second portions. Binder also does not disclose using at least four unshielded twisted pairs of wires for the data and at least two insulated wires for the power.

**With respect to claim 37**, Binder discloses a method comprising receiving data and power from a cable having a first portion to carry the data and a second portion to carry the power (**See column 7 line 35 to column 8 line 6 and Figures 7-8 of Binder for reference to a wire having first and second portions to transmit data and power in parallel between nodes of a communication system**). Binder also discloses first and second connectors terminating the first and second portions (**See column 7 lines 20-47, claim 13, and Figure 7 of Binder for reference to connectors of the wire line with the connectors terminating at connectors of the network node**). Binder does not specifically disclose the cable comprising a weather resistant outer sheath surrounding the first and second portions. Binder also does not disclose using at least four unshielded twisted pairs of wires for the data and at least two insulated wires for the power.

**With respect to claim 38**, Binder does not specifically disclose the connectors being configured to maintain adequate physical and electrical contact over a range of operationally harsh environmental conditions.

**With respect to claims 23, 30, 31, 33, 37, and 38**, Rossetti et al., in the field of communications, discloses an environmentally hardened network with wires and connectors configured to maintain adequate physical and electrical contact over a range of operationally harsh environmental conditions (**See column 4 lines 24-66, column 5 line 65 to column 6 line 9, and Figures 4 and 6 of Rossetti et al. for reference to an environmentally hardened network with connectors that provide protection against environmentally harsh conditions including EMI shielding and weather**



**protection).** Using an environmentally hardened network with wires and connectors configured to maintain adequate physical and electrical contact over a range of operationally harsh environmental conditions has the advantage of allowing network components to operate unhindered in an outdoor environment.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Rossetti et al., to combine using an environmentally hardened network with wires and connectors configured to maintain adequate physical and electrical contact over a range of operationally harsh environmental conditions, as suggested by Rossetti et al., with the system and method of Binder, with the motivation being to allow network components to operate unhindered in an outdoor environment.

**With respect to claim 3**, the combination of Binder and Rossetti et al. does not specifically disclose a plurality of unshielded twisted-wire pairs to carry data.

**With respect to claims 3, 23, 33, 37, and 38**, Hosaka et al., in the field of communications, discloses a cable including at least four unshielded twisted-wire pairs to carry data and two insulated wires to carry power (**See column 1 lines 32-48 and Figure 4 of Hosaka et al. for reference to a cable including six unshielded twisted pair wires 31 and two insulated power supply pair wires 32**). Using a cable including at least four unshielded twisted-wire pairs to carry data and two insulated wires to carry power has the advantage of allowing multiple physical data channels to be implemented using a single cable such that the bandwidth of the cable is increased.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Hosaka et al., to combine using a cable including at least four unshielded twisted-wire pairs to carry data and two insulated wires to carry power, as suggested by Hosaka et al., with the system and method of Binder and Rossetti et al., with the motivation being to allow multiple physical data channels to be implemented using a single cable such that the bandwidth capacity of the cable is increased.

**With respect to claims 12 and 24**, Binder discloses physical layer transceivers at the nodes configured to operate over the UTP wiring pairs in full duplex switched packet transmission mode **(See column 3 lines 6-25 and claim 40 of Binder for reference to the network including transceivers that operate over the copper twisted pair wiring in a full duplex packet transmission mode)**.

**With respect to claim 25**, Binder discloses the first node including a switch circuit and a plurality of physical layer transceivers configured to selectively connect different ones of the pairs **(See the abstract of Binder for reference to the node being a router meaning it inherently must include a switch selectively connecting different pairs of transceivers to route data from an input port to an output port)**.

**With respect to claim 26**, Binder discloses that the first node includes a router **(See the abstract of Binder for reference to the node being a router)**.

**With respect to claim 27**, Binder discloses the first node including a power supply configured to provide power for the second portion of the cable **(See column 7**

**line 35 to column 8 line 6 and Figures 7-8 of Binder for reference to node 70 including power supply 41 to provide power to the second portion of the wire).**

**With respect to claims 34 and 35**, although the combination of Binder, Rossetti et al., and Hosaka et al. does not specifically disclose deploying the cable underground and/or above the ground, deploying cables underground and/or above the ground is old and well known in the art of communications.

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Binder in view of Rossetti et al. and Hosaka et al. and in further view of Freeman et al. (U.S. Pat. 5461195).

**With respect to claim 4**, the combination of Binder, Rossetti et al., and Hosaka et al. does not disclose using an insulating sheath.

**With respect to claim 4**, Freeman et al., in the field of communications, discloses using protective gel sheathing for UTP pairs **(See the abstract and column 12 lines 15-24 of Freeman et al. for reference to using protective gel sheathing on twisted pair wiring)**. Using protective gel sheathing for UTP pairs has the advantage of helping eliminate shorts caused by moisture contact **(See the abstract of Freeman et al. for reference to this advantage)**.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Freeman et al., to combine using protective gel sheathing for UTP pairs and connectors, as suggested by Freeman et al., with the

system and method of Binder, Rossetti et al., and Hosaka et al., with the motivation being to help eliminate shorts caused by moisture contact.

8. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Binder in view of Rossetti et al., Hosaka et al., Freeman et al., and in further view of Lemke (U.S. Pat. 4800236).

**With respect to claim 5**, the combination of Binder, Rossetti et al., Hosaka et al., and Freeman et al. does not disclose foil sheathing and a drain wire.

**With respect to claim 5**, Lemke, in the field of communications, discloses a cable with foil sheathing and a drain wire (**See column 7 lines 25-44 of Lemke for reference to a cable with foil sheathing and a drain wire**). Using foil sheathing and a drain wire has the advantage of protecting a cable against outside interference.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Lemke, to combine using foil sheathing and a drain wire, as suggested by Lemke, with the system and method of Binder, Rossetti et al., Hosaka et al., and Freeman et al., with the motivation being to protect a cable against outside interference.

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Binder in view of Rossetti et al., Hosaka et al., Freeman et al., Lemke, and in further view of Lhota (U.S. Pat. 6399883 B1).

**With respect to claim 6**, the combination of Binder, Rossetti et al., Hosaka et al., Freeman et al., and Lemke does not disclose including a suspension line bound to the cable.

**With respect to claim 6**, Lhota, in the field of communications, discloses a cable including a suspension line (**See column 2 lines 45-64 of Lhota for reference to using a plastic suspension line for a cable**). Using a suspension line has the advantage of giving a cable extra support.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Lhota, to combine using a suspension line, as suggested by Lhota, with the system and method of Binder, Rossetti et al., Hosaka et al., Freeman et al., and Lemke, with the motivation being to give a cable extra support.

10. Claims 7 and 8 rejected under 35 U.S.C. 103(a) as being unpatentable over Binder in view of Rossetti et al., Hosaka et al., Freeman et al., and in further view of Elms et al. (U.S. Pat. 5677974).

**With respect to claims 7 and 8**, the combination of Binder, Rossetti et al., Hosaka et al., and Freeman et al. does not disclose a hollow conduit for optical fiber installation having walls of sufficient rigidity to be self supporting and having a sheath enclosing the cable.

**With respect to claims 7 and 8**, Elms et al., in the field of communications, discloses a cable with a hollow conduit for optical fiber installation having walls of

sufficient rigidity to be self supporting and having a sheath enclosing the cable (**See the abstract of Elms et al. for reference to a hybrid cable having a hollow conduit for optical fiber installation that is self supporting and enclosed by a sheath**). Using a cable with a hollow conduit for optical fiber installation having walls of sufficient rigidity to be self supporting and having a sheath enclosing the cable has the advantage of allowing optical fiber to be installed in the same cable as electrical wiring.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Elms et al., to combine using a cable with a hollow conduit for optical fiber installation having walls of sufficient rigidity to be self supporting and having a sheath enclosing the cable, as suggested by Elms et al., with the system and method of Binder, Rossetti et al., Hosaka et al., and Freeman et al., with the motivation being to allow optical fiber to be installed in the same cable as electrical wiring.

11. Claims 9-11 and 39 rejected under 35 U.S.C. 103(a) as being unpatentable over Binder in view of Rossetti et al., Hosaka et al., and in further view of Batruni et al. (U.S. Pat. 6215785 B1).

**With respect to claims 9 and 39**, Binder discloses high performance physical layer transceivers configured to operate over the UTP wiring pairs in full duplex switched packet transmission mode (**See column 3 lines 6-25 and claim 40 of Binder for reference to the network including transceivers that operate over the copper twisted pair wiring in a full duplex packet transmission mode**). The combination of

Binder, Rossetti et al., and Hosaka et al. does not disclose clocking at a lower rate than design specification.

**With respect to claims 9 and 39**, Batruni et al., in the field of communications, discloses clocking at a lower rate than design specification **(See column 3 lines 8-31 of Batruni et al. for reference to clocking data transmission at substantially lower rates)**. Clocking at a lower rate than design specification has the advantage of allowing transmission to be performed over a great distance **(See column 3 lines 8-31 of Batruni et al. for reference to this advantage)**.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Batruni et al., to combine clocking at a lower rate than design specification, as suggested by Batruni et al., with the system and method of Binder, Rossetti et al., and Hosaka et al., with the motivation being to allow transmission to be performed over a great distance.

**With respect to claim 10**, Binder discloses transceivers configured to operate over the UTP wiring pairs in full duplex switched packet transmission mode **(See column 3 lines 6-25 and claim 40 of Binder for reference to the network including transceivers that operate over the copper twisted pair wiring in a full duplex packet transmission mode)**.

**With respect to claim 11**, Binder discloses using a plurality of UTP pairs for simultaneous trunking transmission in a common direction **(See column 7 line 49 to column 8 line 6 and Figure 8 of Binder for reference to using multiple twisted pairs to transmit data simultaneously in the same direction)**.

12. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Binder in view of Rossetti et al. and in further view of Plyler et al. (U.S. Pat. 5145402).

**With respect to claim 14**, the combination of Binder and Rossetti et al. does not disclose using a protective contact dielectric gel for the connectors.

**With respect to claim 14**, Plyler et al., in the field of communications, discloses using protective contact dielectric gel for connectors **(See column 3 line 61 to column 4 line 14 and claim 9 of Plyler et al. for reference to using a silicon dielectric gel within the contact area of connectors)**. Using protective contact dielectric gel has the advantage of sealing, protecting, and preserving electrical characteristics of the contact **(See column 4 lines 9-12 for reference to this advantage)**.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Plyler et al., to combine using protective contact dielectric gel, as suggested by Plyler et al., with the system and method of Binder and Rossetti et al., with the motivation being to seal, protect, and preserve electrical characteristics of a contact.

13. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hosaka et al. in view of Rossetti et al.

**With respect to claim 17**, Hosaka et al. discloses a cable comprising a first section including at least four twisted-wire pairs configured to carry data and a second section including at least a pair of insulated wires configured to carry power **(See**



**column 1 lines 32-48 and Figure 4 of Hosaka et al. for reference to a cable including six unshielded twisted pair wires 31 in a first section surrounding two insulated power supply pair wires 32 in a second section).** Hosaka et al. does not specifically disclose a weather-resistant outer sheath surrounding the first and second sections.

**With respect to claim 17,** Rossetti et al., in the field of communications, discloses an environmentally hardened network with wires and connectors configured to maintain adequate physical and electrical contact over a range of operationally harsh environmental conditions **(See column 4 lines 24-66, column 5 line 65 to column 6 line 9, and Figures 4 and 6 of Rossetti et al. for reference to an environmentally hardened network with connectors that provide protection against environmentally harsh conditions including EMI shielding and weather protection).** Using an environmentally hardened network with wires and connectors configured to maintain adequate physical and electrical contact over a range of operationally harsh environmental conditions has the advantage of allowing network components to operate unhindered in an outdoor environment.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Rossetti et al., to combine using an environmentally hardened network with wires and connectors configured to maintain adequate physical and electrical contact over a range of operationally harsh environmental conditions, as suggested by Rossetti et al., with the system and method

of Hosaka et al., with the motivation being to allow network components to operate unhindered in an outdoor environment.

14. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hosaka et al. in view of Rossetti et al. and in further view of Elms et al.

**With respect to claims 18 and 19**, the combination of Hosaka et al. and Rossetti et al. does not disclose a hollow conduit for optical fiber installation having a sheath enclosing the cable and a messenger wire to support installation of the optical fiber.

**With respect to claims 18 and 19**, Elms et al., in the field of communications, discloses a cable with a hollow conduit for optical fiber installation having a sheath enclosing the cable and a messenger wire to support installation of the optical fiber (**See the abstract and column 3 lines 53-58 of Elms et al. for reference to a hybrid cable having a hollow conduit for optical fiber installation that is enclosed by a sheath and for reference to a pulling ribbon, which is a messenger wire to support installation of the optical fiber**). Using a cable with a hollow conduit for optical fiber installation having a sheath enclosing the cable and a messenger wire to support installation of the optical fiber has the advantage of allowing optical fiber to be installed in the same cable as electrical wiring.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Elms et al., to combine using a cable with a hollow conduit for optical fiber installation having a sheath enclosing the cable and a

messenger wire to support installation of the optical fiber, as suggested by Elms et al., with the system and method of Hosaka et al. and Rossetti et al., with the motivation being to allow optical fiber to be installed in the same cable as electrical wiring.

15. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hosaka et al. in view of Rossetti et al. and in further view of Aslami et al. (U.S. Pat. 5369518).

**With respect to claim 20**, the combination of Hosaka et al. and Rossetti et al. does not specifically disclose the power section including a ground return line.

**With respect to claim 20**, Aslami et al., in the field of communications, discloses using a ground return line **(See column 4 lines 19-35 for reference to a cable using a earth ground return path, which is a ground return line)**. Using a ground return line has the advantage of protecting against short circuits.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Aslami et al., to combine using a ground return line, as suggested by Aslami et al., with the system and method of Hosaka et al. and Rossetti et al., with the motivation being to protect against short circuits.

16. Claim 21 rejected under 35 U.S.C. 103(a) as being unpatentable over Hosaka et al. in view of Rossetti et al., and in further view of Lemke.

**With respect to claim 21**, the combination of Hosaka et al. and Rossetti et al. does not disclose foil sheathing and a drain wire.

**With respect to claim 21**, Lemke, in the field of communications, discloses a cable with foil sheathing and a drain wire (**See column 7 lines 25-44 of Lemke for reference to a cable with foil sheathing and a drain wire**). Using foil sheathing and a drain wire has the advantage of protecting a cable against outside interference.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Lemke, to combine using foil sheathing and a drain wire, as suggested by Lemke, with the system and method of Hosaka et al. and Rossetti et al., with the motivation being to protect a cable against outside interference.

17. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hosaka et al. in view of Rossetti et al. and in further view of Belling (U.S. Pat. 3750281).

**With respect to claim 22**, the combination of Hosaka et al. and Rossetti et al. does not disclose including a suspension line bound to the cable.

**With respect to claim 22**, Belling, in the field of communications, discloses a cable including a removable suspension line (**See the abstract, column 3 lines 57-59, and Figure 4 of Belling for reference to using a removable suspension wire attached to a cable**). Using a removable suspension line has the advantage of giving a cable extra support.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Belling, to combine using a removable suspension line, as suggested by Belling, with the system and method of Hosaka et al. and Rossetti et al., with the motivation being to give a cable extra support.

18. Claims 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Binder in view of Rossetti et al., Hosaka et al., and in further view of Heavey et al. (U.S. Pat. 4468571).

**With respect to claims 28 and 29**, the combination of Binder, Rossetti et al., and Hosaka et al. does not specifically disclose using a power control switch to control power on a bus based on commands as well as provide transient voltage protection.

**With respect to claims 28 and 29**, Heavey et al., in the field of communications, discloses using a power control switch to control power on a bus based on commands as well as provide transient voltage protection **(See the abstract and column 5 lines 25-36 of Heavey et al. for reference to using a switch to control voltage of a power line based on control signals and for reference to providing transient voltage protection)**. Using a power control switch to control power on a bus based on commands as well as provide transient voltage protection has the advantage of allowing power provided by a power line to be more tightly controlled and protected.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Heavey et al., to combine using a power control switch to control power on a bus based on commands as well as provide transient voltage protection, as suggested by Heavey et al., with the system and method of Hosaka et al. and Rossetti et al., with the motivation being to allow power provided by a power line to be more tightly controlled and protected.

19. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Binder in view of Rossetti et al., Hosaka et al., and in further view of Elms et al..

**With respect to claim 36**, the combination of Binder, Rossetti et al., and Hosaka et al. does not disclose a hollow conduit for optical fiber installation having walls of sufficient rigidity to be self supporting and having a sheath enclosing the cable.

**With respect to claim 36**, Elms et al., in the field of communications, discloses a cable with a hollow conduit for optical fiber installation having walls of sufficient rigidity to be self supporting and having a sheath enclosing the cable **(See the abstract of Elms et al. for reference to a hybrid cable having a hollow conduit for optical fiber installation that is self supporting and enclosed by a sheath)**. Using a cable with a hollow conduit for optical fiber installation having walls of sufficient rigidity to be self supporting and having a sheath enclosing the cable has the advantage of allowing optical fiber to be installed in the same cable as electrical wiring.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Elms et al., to combine using a cable with a hollow conduit for optical fiber installation having walls of sufficient rigidity to be self supporting and having a sheath enclosing the cable, as suggested by Elms et al., with the system and method of Binder, Rossetti et al., and Hosaka et al., with the motivation being to allow optical fiber to be installed in the same cable as electrical wiring.

***Response to Arguments***

20. Applicant's arguments filed 3/20/08, with respect to claims 14, 17, 22, 23, 33, and 37 have been fully considered and are persuasive. The previous prior art rejections of these claims have been withdrawn; however, new prior art rejections have been made in view of Hosaka et al. (U.S. Pat. 6448500 B1), Plyler et al. (U.S. Pat. 5145402), and/or Belling (U.S. Pat. 3750281).

21. Applicant's arguments filed 3/20/08, with respect to claims 1, 32, and 38 have been fully considered but they are not persuasive.

Regarding Applicant's argument that Binder does not disclose multiple "connectors" as claimed, the Examiner respectfully disagrees. In order to clarify the multiple connectors disclosed by Binder, additional sections of Binder have been cited in the rejections above. Binder discloses cables having two dedicated power wire with separate power connectors in addition to wires and corresponding connectors used to carry data (See column 7 lines 20-47, claim 13, and Figure 7 of Binder for reference to the multiple connectors). Thus, Binder does disclose "connectors" as claimed.

Regarding Applicant's argument that Binder does not disclose an equivalent system structure for the means plus function limitations of claim 32, the Examiner respectfully disagrees. Binder discloses a cable having separate wires for carrying data and power respectively. This structure is equivalent to the separate power and data wires within a single cable, as disclosed by the Applicant's specification. Binder also

Art Unit: 2616

discloses routers sending and receiving data and power to other routers of a network through the cable. This structure is equivalent to the router nodes sending and receiving data and power, as disclosed by the Applicant's specification. Thus the elements disclosed by Binder are equivalent to the means described by the Applicant's specification.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON E. MATTIS whose telephone number is (571)272-3154. The examiner can normally be reached on M-F 8AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Firmin Backer can be reached on (571)272-6703. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Jason E Mattis  
Examiner  
Art Unit 2616

JEM

/Jason E Mattis/  
Examiner, Art Unit 2616